IOCH

Immunization and Other Child Health Project

Vaccination Coverage Survey of the Homeless Children in Dhaka City Corporation

March 2002

Survey Report No. 73

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Table of Contents

List of Tables

Acronyms

BCC	Behavior Change Communication
BCG	Bacillus of Calmette and Guerin
BINP	Bangladesh Integrated Nutrition Project
CES	Coverage Evaluation Survey
COSAS	Coverage Survey Analysis System
DPT	Diphtheria, Pertussis and Tetanus
EPI	Expanded Programme on Immunization
FIC	Fully Immunized Children
FWC	Family Welfare Center
IOCH	Immunization and Other Child Health
MOHFW	Ministry of Health and Family Welfare
MSH	Management Sciences for Health
NGO	Non Governmental Organization
NID	National Immunization Day
OPV	Oral Polio Vaccine
WHO	World Health Organization

Executive Summary

Background

To improve routine EPI and polio eradication activities, the Expanded Program on Immunization (EPI), Directorate General of Health Services (DGHS), Government of Bangladesh, decided to conduct district and city corporation wise coverage evaluation surveys (CES) in early 2002. UNICEF supported this initiative by contracting out 75 coverage evaluation surveys- one for each of the 64 districts, one for each of the 4 city corporations and 7 surveys for the Bangladesh Integrated Nutrition Project (BINP) upazilas, to two local consulting firms. To supplement these surveys, the Government and the partners requested IOCH to conduct additional 7 coverage evaluation surveys in urban areas. Accordingly, IOCH conducted a coverage evaluation survey among the homeless children in Dhaka City Corporation in March 2002.

Objectives

The overall objective of the survey was to assess the level of immunization coverage among the homeless children in DCC. The specific objectives were to:

a) assess the coverage levels of OPV and Vitamin A administered to the homeless children during the 10th NID campaign that took place between 27 January 2002 and 14 March 2002;
b) assess the level of routine immunization coverage of the homeless children (12-23 months); and
c) investigate the sources of immunization services provided to homeless children during the 10th NID campaign.

Coverage levels of the 10th National Immunization Campaign-2002

Coverage of OPV: 65% of the homeless children received OPV in both the rounds of the 10th NIDs. The coverage of OPV in the 1st round was 77%; while it was 79% in the 2nd round. However, 91% children received at least one dose of OPV in any round of the 10th NIDs. The coverage of OPV in both rounds was the highest (68%) among the children 12 – 23 months of age and the lowest (59%) among the children <1 year.

Coverage of Vit. A: Half of the homeless children aged 12 – 59 months (51%) received Vitamin A in the 1st round of the 10th NIDs. Besides, Vitamin A capsules were also provided to 15% of the children who were not eligible for Vitamin A as they were less than one year of age.

Sources of immunization during the 10th NIDs: Most of the homeless children received OPV during the 10th NIDs from the NID sites located in DCC (71% in the 1st round and 77% in the 2nd round). Mobile teams or fixed teams for mobile population provided OPV to 4% in the 1st round and 5% in the 2nd round of the cases. However, a significant proportion of these children (25% in the 1st round and 18% in the 2nd round) received OPV from outside of DCC during the 10th NIDs at the places of their then residence, as they had moved in DCC after the 10th NIDs or went to their native villages for shot visit during the NIDs.

Routine immunization coverage levels for the children

The data regarding coverage of different antigens were collected from history or verbal claim of the parents/guardians that the child had received a particular antigen. No EPI card or any other form of documentation of receiving vaccine was found. In the absence of EPI cards or any other documentation, we could not estimate the valid coverage rates for different antigens, as well as full immunization coverage.

Crude coverage: About half of the homeless children (49%) had access to routine immunization services, (as measured by the crude coverage of DPT1), 20% of the children received three doses of OPV, 21% received three doses of DPT and 17% were vaccinated against measles. 47% of the children never received any dose of vaccine. Most of the children had received the different antigens by 1 year of age. Only 5% measles vaccine and 2% DPT1 were provided after 1 year of age.

Comparison of indicators of routine child immunization and NID coverage between homeless children and slum children

A coverage evaluation survey was conducted in the slums of Dhaka City Corporation in the same period (i.e., March 27 – 31 2002) when this survey was conducted. Comparison shows that the immunization status of the homeless children is worse than the slum children. The coverage of OPV during the 10^{th} NIDs for homeless children was 25% percentage points lower than that for the slum children (65% for homeless children vs. 90% for slum children). The Vitamin A coverage of the homeless children was also 42% percentage points lower than that of the slum children (47% for homeless children vs. 89% for slum children). The reason is the emphasis of NID on self-attendance to fixed NID sites and on house search despite rhetoric on child-to-child search.

Similarly, the indicators of routine immunization for the homeless children were significantly lower than those for the slum children. Only half of the homeless children had access to routine immunization services compared to 93% for the slum children. Coverage of measles for homeless children was 17% only; while it was70% for the slum children.

Duration of stay of the families of the homeless children in DCC

Half of the families of the homeless children had been in DCC for quite a long time, i.e. 5 year or more. Ten percent of the homeless families had been in DCC for less than three months, and 18% for 6 months. Close to 30% of the homeless families had been in Dhaka for less than a year.

Problems detected

The homeless children are the most susceptible group to vaccine preventable diseases, including poliomyelitis, because of poverty, malnutrition and unhygienic living conditions. The rate of access to routine immunization services (49%), as well as NID coverage (65% for both rounds of the 10^{th} NIDs) for the homeless children is too low, much lower than the slum children. It shows negligence of the NGOs and GOB providers in providing immunization services to homeless children. This situation warrants immediate attention of GOB EPI

program managers and Dhaka City Corporation health authorities for bringing the homeless population under the EPI program. This is a big challenge for GOB and DCC health authorities, since the existing conventional routine EPI program is unlikely to cater the needs of the homeless children. This challenge is very important for not only reducing vaccine preventable diseases but also for maintaining Bangladesh polio free.

Suggested solutions

1. Innovative approaches/strategies have to be undertaken to provide routine immunization to the homeless children. DCC health authorities should encourage (or make it mandatory for) the NGOs working in DCC to undertake innovative approaches/strategies in this regard. The innovative strategies may include:
    - provisions of regular outreach services in the areas where homeless children live in
    - night vaccination sessions can also be arranged in those areas, if situation demands.

2. Innovative approaches/strategies should also be adopted to ensure that the homeless children are not left out during the next NIDs. These may include:
    - identification of the sleeping locations of the homeless children at night
    - inclusion of the homeless children in the microplanning for NIDs
    - formation of special teams to vaccinate the homeless children at night at the places of their sleeping, such as railway stations, streets and other places.

Introduction

To improve routine EPI and polio eradication activities, the Expanded Program on Immunization (EPI), Directorate General of Health Services (DGHS), Government of Bangladesh, decided to conduct district and city corporation wise coverage evaluation surveys (CES) in early 2002. UNICEF supported this initiative by contracting out 75 coverage evaluation surveys- one for each of the 64 districts, one for each of the 4 city corporations and 7 surveys for the Bangladesh Integrated Nutrition Project (BINP) upazilas, to two local consulting firms. To supplement these surveys, the Government and the partners requested IOCH to conduct additional 7 coverage evaluation surveys in urban areas as follows:

i) one coverage evaluation survey for the slums of Dhaka City Corporation;
ii) one coverage evaluation survey for the homeless children of Dhaka City Corporation;
iii) one coverage evaluation survey for the slums of Chittagong City Corporation;
iv) one coverage evaluation survey for the slums of Khulna and Rajshahi City Corporations;
v) one coverage evaluation survey for the major municipalities (IOCH supported 91 municipalities); and
vi) two coverage evaluation surveys for the peri-urban areas (Tejgaon Circle) of Dhaka City Corporation.

Accordingly, IOCH conducted a coverage evaluation survey among the homeless children in the Dhaka City Corporation in March 2002.

Objectives

The overall objective of the survey was to assess the level of immunization coverage among the homeless children in DCC. The specific objectives were to:

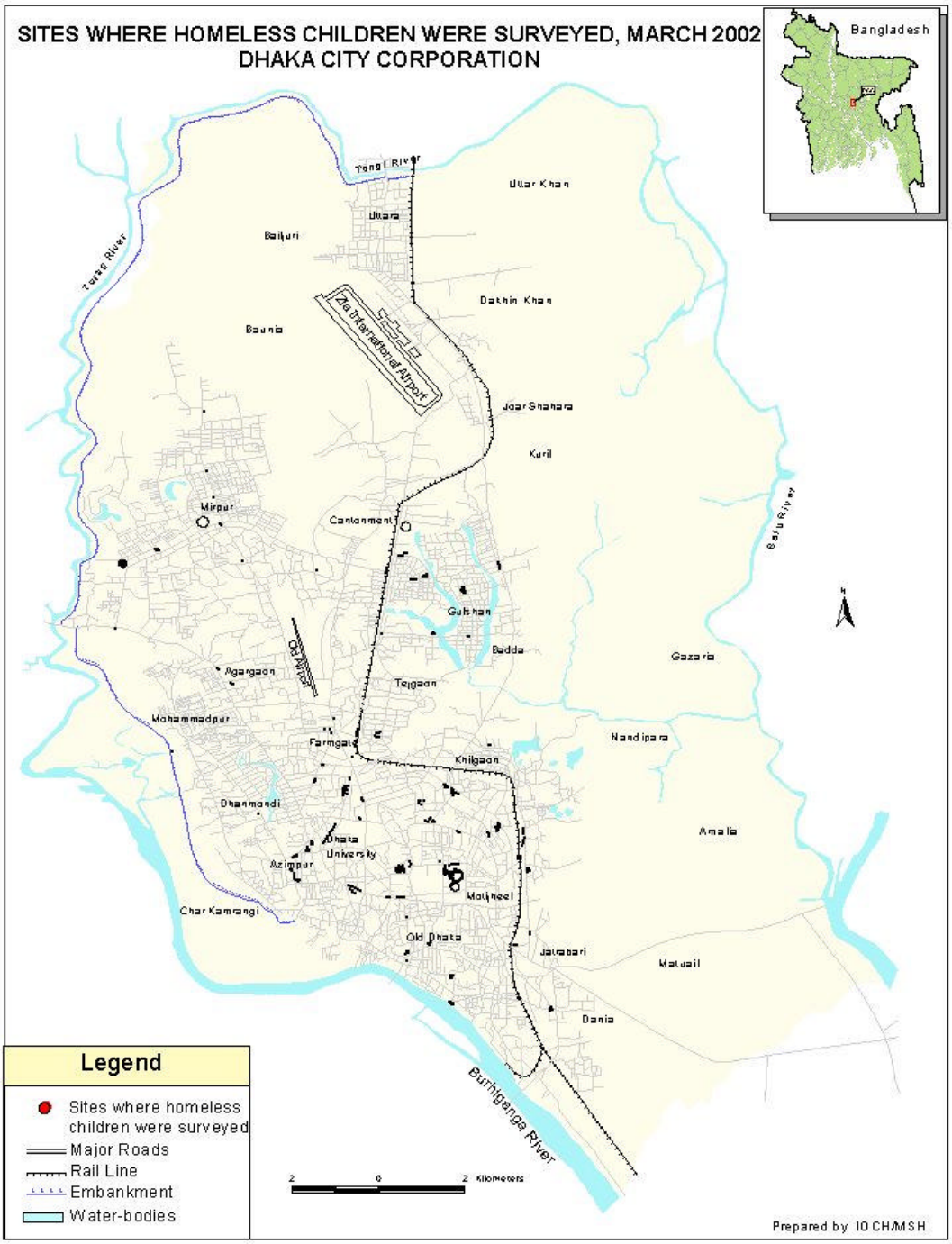
a) assess the coverage levels of OPV and Vitamin A administered to the homeless children during the 10^{th} NID campaign that took place between 27 January 2002 and 14 March 2002;
b) assess the level of routine immunization coverage of the homeless children (12-23 months); and
c) investigate the sources of immunization services provided to homeless children during the 10^{th} NID campaign.

Methodology

The target population for this survey consisted of the homeless children 0 – 59 months living in Dhaka City Corporation. These children do not have any fixed place to stay at night. Usually, they spend their nights in the railway stations, streets, under-construction building, parks and other open places. During daytime, they beg in the street or do odd jobs. There is no reliable statistics on the number of homeless and street population/children in DCC.

Because of the nature of the population of the survey, it was not possible to follow any standard sampling design or survey methodology, such as 30 cluster survey. All the homeless children 0 – 59 months who were found by the surveyors were interviewed with a brief structured questionnaire. In all, 391 children were interviewed for this survey. Since these children were not available during daytime, they were interviewed at night wherever they were. Besides, attempts were also made to interview the children who gather in front of mosques for begging at the time of Jumma prayer (weekly prayer) on Friday, as well as the children who beg or work in and around bazaar areas.

The data for the survey were collected by the experienced Field Investigators of the Survey Team and selected Polio Eradication Facilitators of the IOCH. All the surveyors were trained and were adequately supervised in the field during data collection to ensure quality and completeness of the data. The data were collected over a week, on March 22 - 27, 2002. Data processing and analysis were done by the Monitoring and Evaluation Unit of the IOCH using EpiInfo. The final report was produced by the Monitoring and Evaluation Unit of the IOCH/MSH.


SITES WHERE HOMELESS CHILDREN WERE SURVEYED, MARCH 2002
DHAKA CITY CORPORATION
Bangladesh
Tongi River
Uttar Khan
Uttara
Bailjuri
Turag River
Dakhin Khan
Baunia
Zia International Airport
Joar Shahara
Kuril
Mirpur
Cantonment
Buriganga River
Gulshan
Badda
Gazaria
Old Airport
Agargaon
Tejgaon
Mohammadpur
Farmgate
Nandipara
Khilgaon
Dhanmondi
Amalia
Dhaka University
Azimpur
Matijheel
Char Kamrangi
Old Dhaka
Jatrabari
Matuail
Dania
Legend
Sites where homeless children were surveyed
Major Roads
Rail Line
Embankment
Water-bodies
2 0 2 Kilometers
Prepared by IOCH/MSH

Results

Coverage levels of the 10th National Immunization Campaign-2002

Table 1 shows OPV coverage of the 10th NIDs by age of the homeless children. It shows that 65% of the homeless children received OPV in both the rounds of the 10th NIDs. The coverage of OPV in the 1st round was 77%; while it was 79% in the 2nd round. However, 91% children received at least one dose of OPV in any round of the 10th NIDs. The coverage of OPV in both rounds was the highest (68%) among the children 12 – 23 months of age and the lowest (59%) among the children <1 year.

Table 1: Homeless children receiving OPV during the 10th NID campaign by age

Age	Total Children	1st Round		2nd Round		Any round		Both round	
		#	%	#	%	#	%	#	%
0-11 months	41	28	68	33	80	37	90	24	59
12-23 months	239	186	78	191	80	215	90	162	68
24+ months	111	86	77	85	77	102	92	69	62
Total	**391**	**300**	**77**	**309**	**79**	**354**	**91**	**255**	**65**

Table 2 shows coverage of Vitamin A administered during the 10th NIDs among the homeless children aged 12 – 23 months. It shows that 51% of the homeless children aged 12 – 59 months received Vitamin A in the 1st round of the 10th NIDs. Besides, Vitamin A capsules were also provided to 15% of the children who were not eligible for Vitamin A as they were less than one year of age.

Table 2: Homeless children receiving Vitamin A during the 10th NID campaign by age

N=391

Age	Total Children	Received Vit. A	
		#	%
<12 months	41	6	15
12 - 59 months	**350**	**178**	**51**

Sources of immunization during the 10th NIDs

More than 70% of the homeless children received OPV during the 10th NIDs from the NID sites located in DCC (71% in the 1st round and 77% in the 2nd round). Mobile teams or fixed teams for mobile population provided OPV to 4% in the 1st round and 5% in the 2nd round of the cases. However, a significant proportion of these children (25% in the 1st round and 18% in the 2nd round) received OPV from outside of DCC during the 10th NIDs at the places of their then residence, as they had moved in DCC after the 10th NIDs or went to their native villages for shot visit during the NIDs.

Table 3: Sources of immunization services provided to homeless children during the 10th NIDs

N=391

Sources of services	1st round		2nd round	
	#	%	#	%
NID site in DCC	212	71	237	77
Mobile team in DCC	12	4	14	5
Outside of DCC	76	25	58	18
Total	300	100	309	100

Routine immunization coverage levels for the children

Table 4 shows the routine immunization coverage (crude coverage) of the homeless children 12 – 23 months of age. The data regarding coverage of different antigens were collected from history or verbal claim of the parents/guardians that the child had received a particular antigen. No EPI card or any other form of documentation of receiving vaccine was found. In the absence of EPI cards or any other documentation, we could not estimate the valid coverage rates for different antigens, as well as full immunization coverage. Anyway, Table 4 shows that about half of the children (49%) had access to routine immunization services (as measured by the crude coverage of DPT1, although we do not know whether DPT1 was given in DCC or not), 20% of the children received three doses of OPV, 21% received three doses of DPT and 17% were vaccinated against measles. 47% of the children never received any dose of vaccine.

Table 4: Routine immunization coverage levels for the homeless children

(N=253)

Name of the Antigen	Number	Percents
BCG	129	51
DPT1	124	49
DPT2	71	28
DPT3	51	20
OPV1	**129**	**51**
OPV2	75	30
OPV3	53	21
OPV4	33	13
Measles	42	17
Never vaccinated	**118**	**47**

Table 5 shows routine immunization coverage of the children by age at the time of immunization. It shows that most of the children had received the antigens by 1 year of age. Only 5% measles vaccine and 2% DPT1 were provided after 1 year of age.

Table 5: Routine immunization coverage levels for the homeless children by age at the time of vaccination

(N=253)

Name of the Antigen	0-11 months		12+ months	
	#	%	#	%
BCG	125	49	4	2
DPT1	122	48	2	0.8
DPT2	70	28	1	0.3
DPT3	50	20	1	0.3
OPV1	125	49	4	2
OPV2	74	29	1	0.3
OPV3	50	20	3	1
OPV4	24	9	9	4
Measles	29	11	13	5

Comparison of indicators of routine child immunization and NID coverage between homeless and slum children

A coverage evaluation survey was conducted in the slums of Dhaka City Corporation in the same period (i.e., March 27 – 31 2002) when this survey was conducted. Table 6 shows a comparison of indicators of routine child immunization and NID coverage between homeless and slum children. It shows that the immunization status of the homeless children is worse than the slum children. The coverage of OPV during the 10^{th} NIDs for homeless children was 25% percentage points lower than that for the slum children (65% for homeless children vs. 90% for slum children). The Vitamin A coverage of the homeless children was also 42% percentage points lower than that of the slum children (47% for homeless children vs. 89% for slum children). The reason is the emphasis of NID on self-attendance to fixed NID sites and on house search despite rhetoric on child-to-child search.

Similarly, the indicators of routine immunization for the homeless children were significantly lower than those for the slum children. Only half of the homeless children had access to routine immunization service compared to 93% for the slum children. Coverage of measles for homeless children was 17% only; while it was 70% for the slum children.

Table 6: Comparison of child immunization and NID coverage (for the 10th NIDs) between homeless and slum children

Variable	Coverage Level (%)	
	Homeless Children	Slum Children*
OPV coverage:		
1st Round	77	95
2nd Round	79	93
Both Rounds	65	90
Vitamin A Coverage	47	89
Child immunization coverage:		
BCG	51	94
DPT1	49	93
DPT3	20	78
Measles	17	70

** Vaccination Coverage Survey in the Slums of Dhaka City Corporation- March 2002, Survey Report No 62, IOCH/MSH. 2002*

Duration of stay of the families of the homeless children in DCC

Half of the families of the homeless children had been in DCC for quite a long time, i.e. 5 year or more. Ten percent of the homeless families had been in DCC for less than three months, and 18% for 6 months. Close to 30% of the homeless families had been in Dhaka for less than a year (Table 7).

Table 7: Duration of stay of the families of the homeless children in DCC

N=391

Duration of stay	Number	Percents	Cumulative percentage
<3 months	39	10	10
3-6 months	31	8	18
6-12 months	38	10	28
1-2 years	25	6	34
2-3 years	30	8	42
3-5 years	27	7	49
5 -10years	89	23	72
10 years+	112	28	100

Conclusions and Recommendations

The homeless children are the most susceptible group to vaccine preventable diseases, including poliomyelitis, because of poverty, malnutrition and unhygienic living conditions. The rate of access to routine immunization services (49%), as well as NID coverage (65% for both rounds of the 10th NIDs) for the homeless children is too low, much lower than the slum children. It shows negligence of the NGOs and GOB providers in providing immunization services to homeless children. This situation warrants immediate attention of GOB EPI program managers and Dhaka City Corporation health authorities for bringing the homeless population under the EPI program. This is a big challenge for GOB and DCC health authorities, since the existing conventional routine EPI program is unlikely to cater the needs of the homeless children. This challenge is very important for not only reducing vaccine preventable diseases but also for maintaining Bangladesh polio free.

Recommendations

1 Innovative approaches/strategies have to be undertaken to provide routine immunization to the homeless children. DCC health authorities should encourage (or make it mandatory for) the NGOs working in DCC to undertake innovative approaches/strategies in this regard. The innovative strategies may include:

- provisions of regular outreach services in the areas where homeless children live in
- night vaccination sessions can also be arranged in those areas, if situation demands.

2. Innovative approaches/strategies should also be adopted to ensure that the homeless children are not left out during the next NIDs. These may include:

- identification of the sleeping locations of the homeless children at night
- inclusion of the homeless children in the microplanning for NIDs
- formation of special teams to vaccinate the homeless children at night at the places of their sleeping, such as railway stations, streets and other places.

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Acknowledgements

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List of IOCH Survey/Research/Technical Reports

Survey Reports

1. Vaccination Coverage Survey of the Slums of Rajshahi City Corporation - January 2000. Survey Report No. 1, May 2000
2. Vaccination Coverage Survey of the Selected Unions along the North-western Border of Bangladesh - February 2000. Survey Report No. 2, June 2000
3. Vaccination Coverage Survey of the Selected Unions along the South-west Border of Bangladesh - February 2000. Survey Report No. 3, July 2000
4. Vaccination Coverage Survey of the Slums of Khulna City Corporation - January 2000. Survey Report No. 4, July 2000
5. Vaccination Coverage Survey of the Slums of Chittagong City Corporation - January 2000. Ward Number 1 to 18. Survey Report No. 5, July 2000
6. Vaccination Coverage Survey of the Slums of Chittagong City Corporation - January 2000. Ward Number 19 to 41. Survey Report No. 6, July 2000
7. Vaccination Coverage Survey of the Dinajpur Municipality - January 2000. Survey Report No. 7, July 2000
8. Vaccination Coverage Survey of the Noakhali Municipality - January 2000. Survey Report No. 8, July 2000
9. Vaccination Coverage Survey of the Slums of Dhaka City Corporation - January 2000. Dhaka Slums of Zones 1, 2 & 4. Survey Report No. 9, July 2000
10. Vaccination Coverage Survey of the Slums of Dhaka City Corporation - January 2000. Dhaka Slums of Zones 5, 6 & 7. Survey Report No. 10, July 2000
11. Vaccination Coverage Survey of the Slums of Dhaka City Corporation - January 2000. Dhaka Slums of Zones 3, 8, 9 & 10. Survey Report No. 11, July 2000
12. Vaccination Coverage Survey of the Tribal and Non-tribal Populations in the North-east Border Areas of Bangladesh. Survey Report No. 12, August 2000
13. Vaccination Coverage Survey of the Sylhet Municipality - January 2000. Survey Report No. 13, August 2000
14. Vaccination Coverage Survey of the Kishoreganj Municipality - April 2000. Survey Report No. 14, September 2000
15. Vaccination Coverage Survey of the Rangpur Municipality - May 2000. Survey Report No. 15, September 2000
16. Vaccination Coverage Survey of the Greater Faridpur Municipalities - June 2000. Survey Report No. 16, September 2000
17. Results of Coverage Evaluation Survey of Routine EPI and August 2000 OPV + TT (NNT) Campaign, Chittagong, Khulna and Rajshahi City Corporation Slums - September 2000. Survey Report No. 17, November 2000
18. Results of Coverage Evaluation Survey of Routine EPI and August 2000 OPV + TT (NNT) Campaign, Dhaka City Corporation Slums - September 2000. Survey Report No. 18, November 2000
19. Results of Coverage Evaluation Survey of Routine EPI and August 2000 OPV + TT (NNT) Campaign, Slums of selected 27 Municipalities - September 2000. Survey Report No. 19, November 2000
20. Results of Coverage Evaluation Survey of Routine EPI and August 2000 OPV + TT (NNT) Campaign, Hard-to-reach and High-risk rural areas - September 2000. Survey Report No. 20, November 2000
21. Vaccination Coverage and Other Health Care Practices Survey in the Pabna Char Areas - August 2000. Survey Report No. 21, January 2001
22. Vaccination Coverage Survey of the Mymensingh Municipality - April 2000. Survey Report No. 22, February 2001
23. Vaccination Coverage Survey of the Jessore Municipality - October 20 - 30, 2000. Survey Report No. 23, February 2001
24. Vaccination Coverage Survey of the Comilla Municipality - October 1 - 9, 2000. Survey Report No. 24, February 2001
25. Vaccination Coverage Survey of the Pabna Municipality - July 2000. Survey Report No. 25, February 2001
26. Vaccination Coverage Survey of the Sirajganj Municipality - July 2000. Survey Report No. 26, February 2001
27. Vaccination Coverage Survey of the Bogra Municipality - February 2001. Survey Report No. 27, April 2001
28. Vaccination Coverage Survey of the Peri-urban Areas of DCC - November 2000 (Peri-urban Area Survey-1). Survey Report No. 28, July 2001
29. Vaccination Coverage Survey of the Peri-urban Areas of DCC - November 2000 (Peri-urban Area Survey-2). Survey Report No. 29, July 2001
30. Vaccination Coverage Survey of the Patuakhali, Jhalokathi and Pirojpur Municipalities - August 2000. Survey Report No. 30, July 2001
31. Vaccination Coverage Survey of the Bandarban, Rangamati and Khagrachari Municipalities - January 2001. Survey Report No. 31, July 2001
32. Vaccination Coverage Survey of the Naogaon Municipality - February 2001. Survey Report No. 32, July 2001
33. Vaccination Coverage Survey of the Tongi Municipality - March 2001. Survey Report No. 33, July 2001
34. Vaccination Coverage Survey of the Tangail Municipality - March 2001. Survey Report No. 34, July 2001

35. Vaccination Coverage Survey of the Savar Municipality - May 2001. Survey Report No. 35, July 2001
36. Vaccination Coverage Survey of the Rangpur District - June 2001. Survey Report No. 36, July 2001
37. Vaccination Coverage Survey of the Nawabganj Municipality - June 2001. Survey Report No. 37, July 2001
38. Vaccination Coverage Survey of the Expanded Areas of the Proposed Barisal City Corporation - June 2001. Survey Report No. 38, July 2001
39. Vaccination Coverage Survey of the Barisal Municipality - June 2001. Survey Report No. 39, July 2001
40. Vaccination Coverage Survey of the Kadam Rasul Municipality - July 2001. Survey Report No. 40, August 2001
41. Vaccination Coverage Survey of the Jamalpur Municipality - July 2001. Survey Report No. 41, August 2001
42. Vaccination Coverage Survey of the Brahmanbaria Municipality - June 2001. Survey Report No. 42, September 2001
43. Vaccination Coverage Survey of the Gazipur Municipality - July 2001. Survey Report No. 43, September 2001
44. Vaccination Coverage Survey of the Narsingdi Municipality - August 2001. Survey Report No. 44, September 2001
45. Vaccination Coverage Survey of the Hard-to-Reach Unions of Dewanganj, Raumari and Rajibpur Upalizas - July 2001. Survey Report No. 45, September 2001
46. Vaccination Coverage Survey of the Satkhira Municipality - September 2001. Survey Report No. 46, September 2001
47. Vaccination Coverage Survey of the Barguna Municipality - October 2001. Survey Report No. 47, November 2001
48. Vaccination Coverage Survey of the Bhola Municipality - October 2001. Survey Report No. 48, November 2001
49. Vaccination Coverage Survey of the Kushtia Municipality - October 2001. Survey Report No. 49, November 2001
50. Vaccination Coverage Survey of the Chandpur Municipality - October 2001. Survey Report No. 50, December 2001
51. Vaccination Coverage Survey of the Bhairab Municipality - November 2001. Survey Report No. 51, December 2001
52. Vaccination Coverage Survey of the Jhenaidah Municipality - November 2001. Survey Report No. 52, December 2001
53. Vaccination Coverage Survey of the Chuadanga Municipality - November 2001. Survey Report No. 53, December 2001
54. Vaccination Coverage Survey of the Sherpur Municipality - November 2001. Survey Report No. 54, December 2001
55. Vaccination Coverage Survey of the Mongla Municipality - December 2001. Survey Report No. 55, January 2002
56. Vaccination Coverage Survey of the Ishwardi Municipality – January 2002. Survey Report No. 56, March 2002
57. Vaccination Coverage Survey of the Munshiganj Municipality – January 2002. Survey Report No. 57, March 2002
58. Vaccination Coverage Survey in the Tea Gardens Owned by the Foreign Companies – February 2002. Survey Report No. 58, March 2002
59. Vaccination Coverage Survey in the Tea Gardens Owned by the National/Local Companies – February 2002. Survey Report No. 59, March 2002
60. Vaccination Coverage Survey and Other Health Care Practices Survey in the Villages Bordering the Sundarbans – December 2001. Survey Report No. 60, April 2002
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